

Arizona State University**Interoffice Memorandum**

To: The Phoenix Critical Design Review Board

From: Sarah Rogers, Phoenix Program Manager

Subject: Phoenix Critical Design Review

Date & Location: June 18, 2018 (8:00am - 2:00pm) in ISBT4 room 240

Dial-in Number: 196-224-869

WebEx link:

<https://meetings.webex.com/collabs/#/meetings/detail?uuid=MER2JXPAXQUSWD2THZR3DT9FFK-402&rnd=568494.67590>

The Phoenix Critical Design Review shall be an examination of how the spacecraft and concept of operations have been designed and verified to meet the mission objective. In the end, the purpose of CDR is to demonstrate the state of the CubeSat is mature enough to meet a delivery date of **September 3, 2018**. The review will highlight this through a discussion of system and subsystem level design, as well as their ability to meet mission requirements.

The review will start promptly at 8am, and end at 2:00pm. There will be 10 minute breaks scattered throughout the review, and a 30 minute lunch break at noon for all attendees. Those attending virtually can call in using the WebEx link above.

The review will be moderated by Jack Lightholder of JPL. To delegate tasks and communicate areas of weakness, all RFAs shall be tracked throughout the course of the review, agreed upon by members in the room, and clearly communicated as an action item before moving forward. RFAs can be called out by any member on the Phoenix team or the review board, but all shall be documented by the review moderator. Board members shall record their own RFA's, which should be sent to Sarah at the email in the header so that they are in the hands of the student team.

Final review slides will be sent to the board on **5/13/2018** along with an official agenda, once content has been finalized through holding pre-CDR reviews with the team. **All finalized notes and action items should be sent out within one week following the review (by June 25)**. If there are any questions regarding CDR, please feel free to ask.

The scope and the review objectives are stated below:

Scope

1. Introduction, Review structure, and requirements
2. Program & mission Overview

3. Program status and major updates since PDR
 - a. Review of all resulting comments and action items following PDR, and how these have been addressed since the review in March 2017
4. Spacecraft overview
5. Concept of operations
6. Payload overview and requirements validation
7. Supporting subsystem design
 - a. subsystem performance capabilities
 - b. System interfaces, including mechanical, electrical, and thermal constraints
 - c. Flight software design and development
8. Flight preparation and environmental testing outline
 - a. Overview of vibe and TVAC environmental tests
9. Program schedule until delivery
10. Program risk assessment

Review Criteria and Expected Outcomes

Following the conclusion of the review, the review board shall conclude the items listed below:

1. The student team's progress demonstrates enough maturity to meet the projected delivery date of September 3, 2018
2. All subsystems demonstrate that they meet or are very close to meeting their mission requirements
3. The mission's programmatic risks have been identified, and appropriate mitigation plans are developed

Review Board

Dr. Paul Scowen, Arizona State University
Dr. Mark Miner, Arizona State University
Jack Lightholder (Moderator), Jet Propulsion Laboratory
Belinda Shreckengost, Jet Propulsion Laboratory
Alex Austin, Jet Propulsion Laboratory
Amanda Donner, Jet Propulsion Laboratory
Cate Heneghan, Jet Propulsion Laboratory
Nathan Daniels, Nanoracks
Scott Higginbotham, Kennedy Space Center
Peter Dell, NASA Wallops

Agenda

The following times account both for the time allotted for both content and questions.

1. Intro -- **8:00 - 8:15 AM** (15 min total)
 - a. **Presenter:** Sarah Rogers
2. Conops/satellite overview -- **8:15 - 8:30 AM** (10 min of content)
 - a. **Presenter:** Jaime Sanchez de la Vega
3. Payload -- **8:30 - 9:20 AM** (25 min of content)
 - a. **Presenter:** Yegor Zenkov
4. ADCS -- **9:20 - 10:00 AM** (25 min of content)
 - a. **Presenter:** Ryan Fagan
5. Comms -- **10:00 - 10:20 AM** (15 min, content)
 - a. **Presenter:** Jaime Sanchez de la Vega
6. MOps -- **10:20 - 10:35 AM** (10 min of content)
 - a. **Presenter:** Sarah Rogers
7. FSW -- **10:35 - 11:15 PM** (25 min, content)
 - a. **Presenter:** Craig Knoblauch
8. C&DH -- **11:15 - 11:50 AM** (15 min, content)
 - a. **Presenter:** Craig Knoblauch
9. LUNCH (30 min) -- **11:50 - 12:20 AM**
10. EPS -- **12:20 - 12:45 PM** (20 min, content)
 - a. **Presenter:** Jaime Sanchez de la Vega
11. Structures -- **12:45 - 1:05 PM** (15 min, content)
 - a. **Presenter:** Jaime Sanchez de la Vega
12. Systems -- 1:05 - 1:20 (min, content)
 - a. **Presenter:** Jaime Sanchez de la Vega
13. Thermal -- **1:20 - 1:30 PM** (20 min, content)
 - a. **Presenter:** Sarah Rogers
14. Flight Preparation & Env. Testing -- **1:30 - 1:50 PM** (15 min, content)
 - a. **Presenter:** Sarah Rogers
15. Closeout/Schedule -- **1:50 - 2:00 PM** (~10 min, content)
 - a. **Presenter:** Sarah Rogers